

Listing of the Claims

1-2. (canceled)

3. (currently amended) The method of claim 35, wherein said signature information concerning the ~~communication~~ capabilities of the first device comprises one of a type of voice operated recorder (vocoder), a device revision indicator, and a device identifier.

4-6. (canceled)

7. (currently amended) The method of claim 35, wherein at the first device, further comprising compressing the data stream according to a source compression algorithm, wherein said signature information identifies the source compression algorithm.

8. (currently amended) The method of claim 35, wherein at the first device, said generating further comprises:
compressing the data stream to generate a compressed data stream;
detecting a capability of the first device;
generating a signature based on the detected capability of the first source device; and
applying the signature as a watermark to the compressed data stream ~~to generate the data transmission message~~.

9. (previously presented) The method of claim 8, wherein detecting comprises detecting a capability of the first device comprising at least one of a type of voice operated recorder (vocoder), device revision indicator, and a device identifier.

10. (currently amended) The method of claim 8, wherein the data stream includes multimedia data encoded in a plurality of fields including non-critical fields and critical fields, and wherein said ~~applying~~ inserting the signature comprises masking the non-critical fields of the data stream; ~~applying and inserting the signature information~~ inserting the signature information to the masked fields of the data stream; and outputting a signed data stream having the non-critical fields of the data stream containing the signature information and the critical fields of the data stream containing the multimedia data.

11. (previously presented) The method of claim 35, wherein the data stream includes header information and multimedia content information, and wherein said information concerning the capability of the first device comprises a watermark that is contained in the multimedia content information.

12-17. (canceled)

18. (currently amended) The method of claim 35, wherein at the second device, further comprising: ~~determining a communication capability attribute contained in said information concerning the communication capabilities of the first device, and~~ comparing the ~~communication capability attribute~~ capabilities and/or attributes of the first device with the ~~communication capability attribute~~ capabilities and/or attributes of the second device.

19. (currently amended) The method of claim 18, wherein at the second device, further comprising ~~determining~~ selecting a ~~communication capability~~ and/or attribute that is common to both the first device and the second device based on said comparing.

20. (canceled)

21. (currently amended) The method of claim 19, wherein at the second device, further comprising recovering said data stream based on the capability and/or attribute that is determined to be in common to both the first device and second device ~~parameter~~.

22-23. (canceled)

24. (currently amended) The communication system of claim 36, wherein said signature generator in the first communication device generates said signature information comprising at least one of a type of voice operated recorder (vocoder), device revision indicator, and a device identifier.

25. (previously presented) The communication system of claim 36, wherein said first communication device further comprises a compression unit that compresses the data stream according to a source compression algorithm, wherein said signature information also identifies the source compression algorithm.

26. (previously presented) The communication system of claim 36, wherein said transport processor in the first communication device adds communication protocol information to the signature information.

27. (previously presented) The communication system of claim 36, wherein the combiner in the first communication device comprises a circuit for logically combining the signature information with the data stream.

28-31. (canceled)

32. (currently amended) The communication system of claim 36, wherein said second communication device comprises a multimedia data decompression unit configured based on said signature information identifying said compression algorithm to decompress the multimedia data stream.

33. (previously presented) The communication system of claim 36, wherein the detector in the second communication device comprises an extraction mask unit configured to logically combine the multimedia data containing the signature information with a data extraction mask and a signature extraction mask, and to output a multimedia data frame and a signature signal containing the signature information concerning at least one communication capability of the first communication device.

34. (canceled)

35. (currently amended) A method ~~for of automatically negotiating communication parameters to permit~~ communication between a first device and a second device ~~based on the capabilities of these devices~~, comprising:

at the first device:

generating signature information concerning ~~the communication~~ capabilities and/or attributes of the first device;

~~combining inserting~~ said signature information within with a multimedia data stream after application layer processing of the multimedia data stream but prior to network and transport layer processing that applies transport layer headers to the data stream, so as to produce

a transmit data stream having the signature information embedded therein but not in the transport layer headers of the data stream so as to be transparent to lower level processing of the data stream; and

transmitting the transmit data stream to the second device;

at the second device:

receiving the transmit data stream from the first device;

extracting said signature information from the transmit data stream to determine the ~~communication~~ capabilities and/or attributes of the first device; and

~~negotiating, between the application layer processing and network and transport layer processing, configuring capabilities of the second device based on the capabilities and/or attributes of the~~ with the first communication device parameters for communication between the first communication device and second communication device; and

processing ~~further~~ data stream frames received from the first device based on the capabilities configured for the second device parameters negotiated with the first device.

36. (currently amended) A communication system comprising:

a first communication device that comprises:

a data stream processor that outputs a data stream to be transmitted;

a signature generator that generates signature information concerning at least one ~~communication~~ capability and/or attribute of the first communication device;

a combiner that embeds the signature information within the data stream after application layer processing of the data stream but prior to network and transport layer processing so that the signature information does not reside in the transport headers of the data stream; and

a transport processor that generates a transmit data stream comprising containing the data stream with the embedded signature information embedded therein for transmission;

a second communication device that comprises:

a transport processor unit that receives the transmit data stream from the first communication device;

a detector that detects the signature information embedded in the transmit data stream; and

a capabilities processor that extracts the signature information to determine the capabilities and/or attributes ~~at least one communication capability attribute~~ of the first communication device in order to configure capabilities of the second communication device based on the capabilities and/or attributes of the first communication device ~~to negotiate, between the application layer processing and network and transport layer processing, communication parameters to be used for subsequent communication between the first and second communication devices.~~

37. (currently amended) The method of claim 35, wherein said ~~combining~~ inserting comprises substituting a plurality of bits representing said signature information for the least significant bits of linear prediction compression coefficients associated with audio content contained in said multimedia data stream.

38. (currently amended) The method of claim 35, wherein said ~~combining~~ inserting comprises substituting a plurality of bits representing said signature information for: a jitter index, the least significant bits of a gain index, the least significant bits of Fourier Magnitudes; or the least significant bits of reflection bits, associated with a compression technique for audio content contained in said multimedia data stream.

39. (currently amended) The method of claim 35, wherein said ~~combining~~ inserting comprises substituting a plurality of bits representing said signature information for the least significant bits of unrestricted motion vectors and Discrete Cosine Transform (DCT) coefficients associated with motion video content contained in said multimedia data stream.

40. (currently amended) The method of claim 35, wherein said ~~combining~~ inserting comprises substituting a plurality of bits representing said signature information for the least significant bits of the quantized Discrete Cosine Transform (DCT) coefficients associated with still images contained in said multimedia data stream.

41. (currently amended) The method of claim 35, wherein said ~~combining~~ inserting comprises logically OR'ing said signature information with the multimedia data stream at bit positions of the multimedia data stream chosen to have minimal impact on quality of the multimedia data stream at the second device.

42. (canceled)

43. (currently amended) The system of claim 36, wherein said combiner of the first communication device logically OR's said signature information with the data stream at bit positions of the data stream chosen to have minimal impact on quality of the data stream at the second communication device.

44. (currently amended) The system of claim 36, wherein the capabilities processor of the second communication device configures capabilities of the second communication device to match the capabilities and/or attributes of the first communication device to highest common denominator of capabilities between the first communication device and the second communication device ~~determines a highest level of communication capability in common to the first communication and second communication device for use in communication between the first and second devices.~~

45. (new) The method of claim 35, wherein at the second device, configuring comprises configuring capabilities of the second device to match the capabilities and/or attributes of the first device to a highest common denominator of capabilities between the first device and the second device.

46. (new) The method of claim 35, wherein at the first device, said inserting comprises inserting the signature information as a digital signal in non-critical points in the data stream so that it is the signature information is imperceptible to a human when the data stream is decoded at the second device.

47. (new) The method of claim 35, wherein at the first device, said generating comprises changing the signature information depending on whether the capabilities of the first device change with time.

48. (new) The system of claim 36, wherein at the first communication device, the signature generator changes the signature information depending on whether the capabilities of the first device change with time.

49. (new) A method for communication between a first device and a second device, comprising:

at the first device:

generating signature information concerning the capabilities of the first device,
wherein the signature information may change over time with changes in the capabilities of the
first device;

inserting said signature information within a multimedia data stream but not in
header fields associated with the multimedia data stream;

applying transport layer header fields to the multimedia data stream; and

transmitting the multimedia data stream with the signature information embedded
therein;

at the second device:

receiving the multimedia data stream transmitted from the first device;

extracting said signature information from within the multimedia data stream
received from the first device;

determine the capabilities of the first device based on said signature information;

configuring the capabilities of the second device based on the capabilities
determined for the first device from said signature information.

50. (new) The method of claim 49, and further comprising, at the second device,
processing the multimedia data stream received from the first device based on the capabilities
configured for the second device.